**Unit 3: Decimals & Percentages**

**Lecture Notes:**

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| **Main Ideas** | **Details** |
| **Decimal Place Value** | * **Folding between the ones place and the decimal point reveals a mirror image of decimal place values and whole number place values** * **Remember that decimal place value ends in “th”** |
| **Reading Decimals** | 1. **Read the whole number** 2. **When you reach the decimal point say “and”** 3. **Read the decimal as a whole number** 4. **Name the place value of the right-most digit**  * **Ex: 15.3829 (How do would you read this number?)** |
| **Ordering Decimals** | 1. **Arrange all the numbers in a column with the decimal points below each other.** 2. **Compare the values from left to right.**  * **Ex: Order: 2.05, 2.049, 2, 2.1, and 2.13** |
| **Rounding Decimals** | * **Follow the same rules for rounding whole numbers.** * **Ex: Round 2.3453 to the hundredths place.** |
| **Adding and Subtracting Decimals** | 1. **Arrange the terms vertically with the decimal points below each other.** 2. **Solve.** 3. **Bring down the decimal point.** 4. **Follow the same rules for integers.**  * **Ex: -13.18 - 45.320=?** |
| **Multiplying Decimals** | 1. **Ignore the decimal points and multiply the factors as whole numbers.** 2. **Count the number of decimal places in both factors and place the decimal places that many places from the left in the product.**  * **Ex: 0.0015 x 0.0053=?** |
| **Dividing Decimals** | 1. **Obtain whole numbers by moving the decimal point the same number of spaces in the dividend and divisor.** 2. **Divide.** 3. **The decimal point in the quotient will be directly above the decimal point in the dividend.**  * **Ex: 3.5 ÷0.2 =?** |
| **Converting Percent to Decimal** | * **Divide by 100, or move the decimal point 2 steps to the left** * **Ex: 25% = what decimal?** |
| **Converting Decimal to Percent** | * **Multiply by 100, or move the decimal point 2 steps to the right.** * **Ex: .25 = what percent?** |
| **Percent of Problems** | 1. **A certain percent of a certain number equals what number?**  * **Solve by multiplication.** * **Ex: 39% of 46 is what number?** * **0.39 \* 46 = x**  1. **What percent of a certain number equals another number?**  * **Solve by division.** * **Ex: What percent of 46 is 17.94?** * **x % \* 46 = 17.94**  1. **A certain percent of what number equals another number?**  * **Solve by division.** * **Ex: 39% of what number is 17.94?** * **0.39 \* x = 17.94**   **HINTS:**   * **The word “of” means multiply.** * **The word “is” means equals.** * **“What number” is the unknown value.** * **Set up an equation under the word problem by plugging in the symbols and values.** * **Ex: 10% of 60 is what number?** * **Ex: What percent of 20 is 5?** * **50% of what number is 2?** |